

Section 5-1: Elements of Geometry

By the end of this lesson, you should be able to answer:

- What are the fundamental geometric concepts?
- What are the basic geometric postulates and how do you use them?

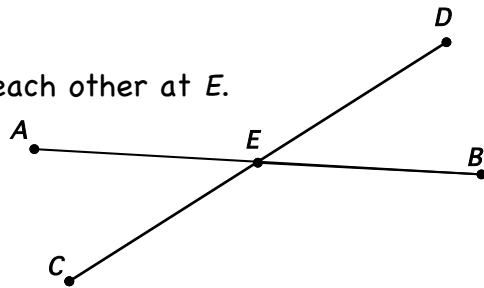
Where you might see this in the real world:

- Construction, art, photography, navigation

Define the following terms:

1. Geometry
2. Point
3. Line
4. Plane
5. Space
6. Collinear points
7. Noncollinear points
8. Coplanar points
9. Noncoplanar points
10. Intersection
11. Congruent line segments
12. Midpoint of a segment
13. Bisector of a segment
14. Postulate

Example 1: In the figure, \overline{AB} and \overline{CD} bisect each other at E .
Name congruent segments.



Point, Line, and Plane Postulates:

Postulate 1:

Postulate 2:

Postulate 3:

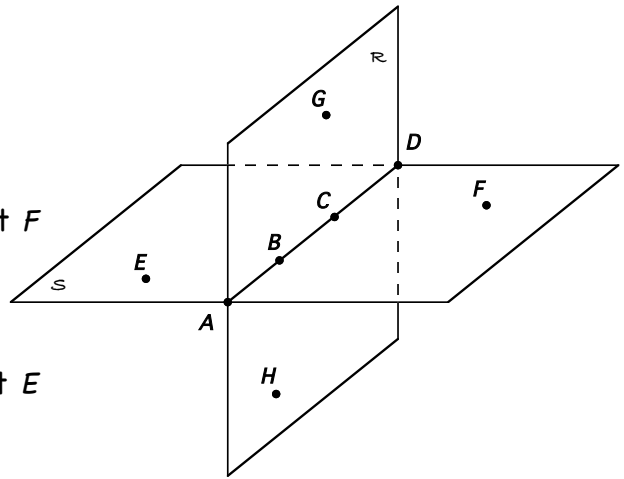
Postulate 4:

Example 2: Refer to the diagram to name the types of points indicated.

a. Three or more collinear points

b. All points that are coplanar with point F

c. All points that are coplanar with point E
and noncollinear with point D



Example 3: Refer to the figure in Example 2 to answer the following.

a. How would you classify the intersection of the two planes?

b. If B and E were to be connected by a line, which plane would they be in?

c. Are F and G able to be connected by a line?

Homework:

"Nothing in life is to be feared. It is only to be understood." - Marie Curie